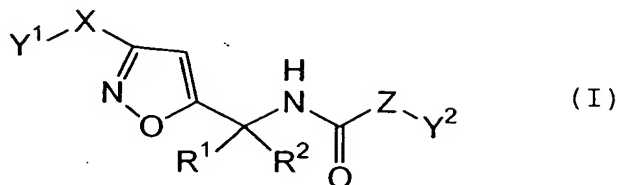


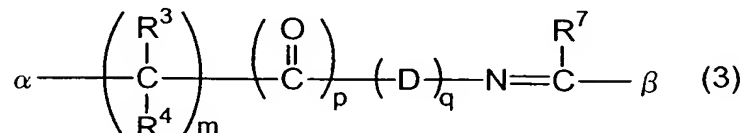
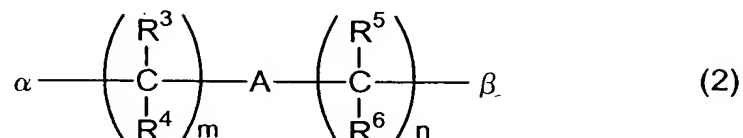
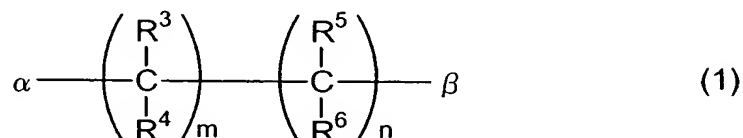
CLAIMS

1. A substituted isoxazole alkylamine derivative represented by the formula (I):



5 wherein R¹ and R² may be the same or different, and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkenyl group, a lower alkynyl group, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkylthio group,
 10 a halogen atom, a hydroxyl group, a carboxyl group, or a cyano group, or R¹ and R² may together form a cycloalkyl group which may be substituted;

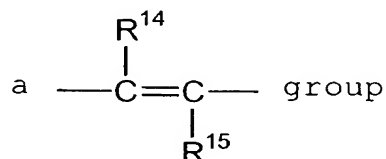
X represents the following formula (1), (2), or (3):



15 wherein R³, R⁴, R⁵, and R⁶ may be the same or different, and each represent a hydrogen atom, a lower alkyl group which

may be substituted, a lower alkenyl group, a lower alkynyl group, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxy carbonyl group, a lower alkylthio group, an amino group, a lower alkylamino group, a di(lower alkyl)amino group, a halogen atom, a hydroxyl group, or a cyano group, or each pair of R^3 and R^4 , and R^5 and R^6 may together form a cycloalkyl group which may be substituted;

A represents an oxygen atom, a sulfur atom, an $-S(O)-$ group, an $-S(O)_2-$ group, an $-NR^{12}-$ group wherein R^{12} represents a hydrogen atom or a lower alkyl group, a carbonyl group, an $-NH-CO-$ group, a $-CO-NH-$ group, a $-C\equiv C-$ group, an $-NH-CO-NH-$ group, an $-O-CONH-$ group, an $-HC=N-$ group, or



wherein R^{14} and R^{15} each represent a hydrogen atom or a lower alkyl group;

m and n each represent 0 or an integer of 1 to 3;

p and q each represent 0 or 1;

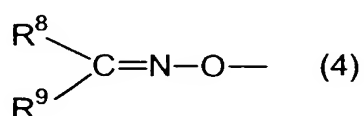
R^7 represents a hydrogen atom or a lower alkyl group; and

D represents an oxygen atom or an $-NH-$ group;

a binds to a Y^1 side, and β binds to an isoxazole moiety);

Y^1 represents a lower alkyl group which may be substituted, a lower alkenyl group which may be substituted,

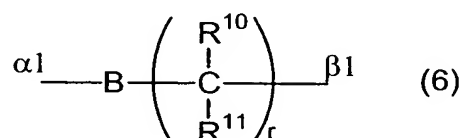
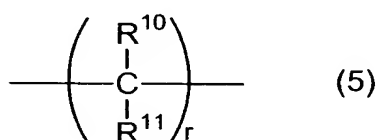
a lower alkynyl group which may be substituted, a cycloalkyl group which may be substituted, a lower cyclo alkenyl group which may be substituted, a phenyl group which may be substituted, a naphthyl group which may be substituted, a
 5 heteroaryl group which may be substituted, an aliphatic hetero ring which may be substituted, or the following formula (4):



wherein R^8 and R^9 each represent a hydrogen atom, a lower
 10 alkyl group which may be substituted, or a phenyl group which may be substituted, or R^8 and R^9 may together form a cycloalkyl group which may be substituted;

Y^2 represents a lower alkenyl group which may be substituted, a lower alkynyl group which may be substituted,
 15 a cycloalkyl group which may be substituted, a lower cyclo alkenyl group which may be substituted, a phenyl group which may be substituted, a naphthyl group which may be substituted, a heteroaryl group which may be substituted, or an aliphatic hetero ring which may be substituted;

20 Z represents a group denoted by the following formula (5) or (6):



wherein R^{10} and R^{11} may be the same or different, and each represent a hydrogen atom, a lower alkyl group which may be substituted, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkylthio group, an amino group, a lower alkylamino group, a di(lower alkyl)amino group, a halogen atom, a hydroxyl group, or a cyano group, or R^{10} and R^{11} may together form a cycloalkyl group which may be substituted;

r represents 0 or an integer of 1 to 3; and

10 B represents an oxygen atom, a sulfur atom, or an $-NR^{13}-$ group wherein R^{13} represents a hydrogen atom or a lower alkyl group;

any one of $\alpha 1$ and $\beta 1$ may be bound to a Y^2 side;

provided that the following (1) to (3) are excluded:

15 (1) a compound in which X is a single bond (i.e. the case that each of m and n is 0 in the formula (1)) and Y^1 represents a 4-hydroxy-3,5-di-tert-butylphenyl group;

(2) a compound in which R^1 and R^2 represent hydrogen atoms, X is a single bond (i.e. the case that each of m and n is 0 in the formula (1)) and both Y^1 and Y^2 represent unsubstituted phenyl groups (2-1) when Z is a single bond (i.e. the case that r is 0 in the formula (5)) or (2-2) when Z is an NH group (i.e. the case that $r=0$ and B represents an $-NH-$ group in the formula (6)); and

25 (3) a compound in which R^1 and R^2 represent hydrogen atoms, Z

is a single bond (i.e. the case that r is 0 in the formula (5)) and Y^2 represents a 4-hydroxycinnolin-3-yl group which may be substituted.

5 2. The substituted isoxazole alkylamine derivative according to claim 1, wherein R^1 and R^2 each independently represent a hydrogen atom or a lower alkyl group which may be substituted.

10 3. The substituted isoxazole alkylamine derivative according to claim 2, wherein Z is an oxygen atom (i.e. the case that r is 0 and B is an oxygen atom in the formula (6)), and Y^2 represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a cycloalkyl
15 group which may be substituted.

 4. The substituted isoxazole alkylamine derivative according to claim 2, wherein Z represents an $-NR^{13}-$ group wherein R^{13} represents a hydrogen atom or a lower alkyl group
20 (i.e. the case that r is 0 and B is an $-NR^{13}-$ group) and Y^2 represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a cycloalkyl group which may be substituted.

25 5. The substituted isoxazole alkylamine derivative

according to claim 2, wherein X and Z are single bonds (i.e. the case that m and n are 0 in the formula (1) and r is 0 in the formula (5)) and Y² represents a phenyl group which may be substituted, a naphthyl group which may be substituted,
5 or a cycloalkyl group which may be substituted.

6. The substituted isoxazole alkylamine derivative according to claim 2, wherein X represents a group represented by the formula (1) wherein R³, R⁴, R⁵, and R⁶ may
10 be the same or different and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkoxy group, a lower alkoxy carbonyl group, a halogen atom, or a cyano group, Y² represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a
15 cycloalkyl group which may be substituted, and m + n is 1, 2, or 3.

7. The substituted isoxazole alkylamine derivative according to claim 2, wherein X represents a group
20 represented by the formula (2) wherein R³, R⁴, R⁵, and R⁶ may be the same or different and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkoxy group, a lower alkoxy carbonyl group, a halogen atom, or a cyano group, Y² represents a phenyl group which may be
25 substituted, a naphthyl group which may be substituted, or a

cycloalkyl group which may be substituted, n is 1 or 2, and m + n is 1, 2, or 3.

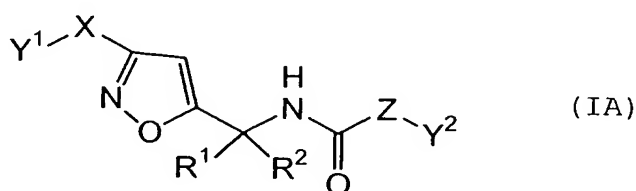
8. The substituted isoxazole alkylamine derivative
5 according to claim 2, wherein X represents a group represented by the formula (2) wherein R³, R⁴, R⁵, and R⁶ may be the same or different and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a halogen atom, or a
10 cyano group, Y² represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a cycloalkyl group which may be substituted, n is 0, and m is 0, 1, or 2.

15 9. The substituted isoxazole alkylamine derivative according to claim 2, wherein X represents a group represented by the formula (3) wherein R³ and R⁴ may be the same or different and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkoxy
20 group, a halogen atom, or a cyano group, m represents 0, 1, or 2, and Y² represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a cycloalkyl group which may be substituted.

25 10. The substituted isoxazole alkylamine derivative

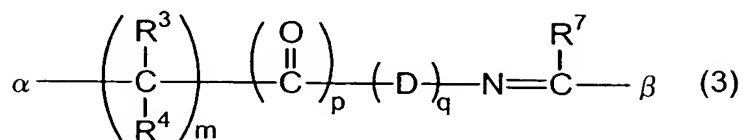
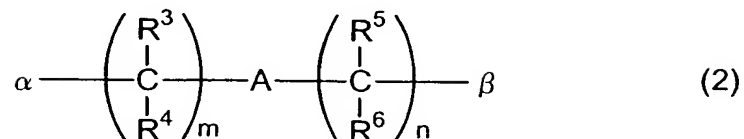
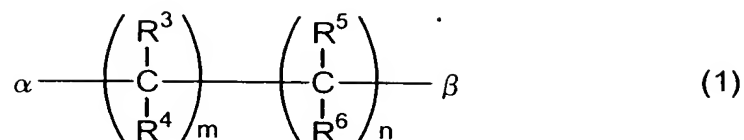
according to claim 2, wherein Y^1 represents a methyl group substituted with a halogen atom, and Z is a single bond (i.e. the case that m and n are 0 in the formula (1)).

- 5 11. An agri-horticultural fungicide containing as an active ingredient a substituted isoxazole alkylamine derivative represented by the formula (IA):



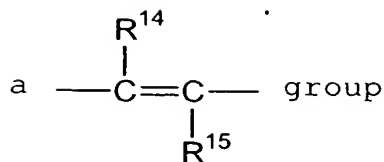
wherein R^1 and R^2 may be the same or different, and each
10 represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkenyl group, a lower alkynyl group, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkylthio group, a halogen atom, a hydroxyl group, a carboxyl group, or a
15 cyano group, or R^1 and R^2 may together form a cycloalkyl group which may be substituted;

X represents the following formula (1), (2), or (3):



wherein R^3 , R^4 , R^5 , and R^6 may be the same or different, and each represent a hydrogen atom, a lower alkyl group which may be substituted, a lower alkenyl group, a lower alkynyl group, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a lower alkylthio group, an amino group, a lower alkylamino group, a di(lower alkyl)amino group, a halogen atom, a hydroxyl group, or a cyano group, or each pair of R^3 and R^4 , and R^5 and R^6 may together form a cycloalkyl group which may be substituted;

A represents an oxygen atom, a sulfur atom, an $-S(O)-$ group, an $-S(O)_2-$ group, an $-NR^{12}-$ group wherein R^{12} represents a hydrogen atom or a lower alkyl group, a carbonyl group, an $-NH-CO-$ group, a $-CO-NH-$ group, a $-C\equiv C-$ group, an $-NH-CO-NH-$ group, an $-O-CONH-$ group, an $-HC=N-$ group, or



wherein R^{14} and R^{15} each represent a hydrogen atom or a lower alkyl group;

m and n each represent 0 or an integer of 1 to 3;

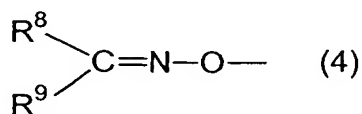
5 p and q each represent 0 or 1;

R^7 represents a hydrogen atom or a lower alkyl group; and

D represents an oxygen atom or an -NH- group;

a binds to a Y^1 side, and β binds to an isoxazole moiety;

Y^1 represents a lower alkyl group which may be
 10 substituted, a lower alkenyl group which may be substituted,
 a lower alkynyl group which may be substituted, a cycloalkyl
 group which may be substituted, a lower cyclo alkenyl group
 which may be substituted, a phenyl group which may be
 substituted, a naphthyl group which may be substituted, a
 15 heteroaryl group which may be substituted, an aliphatic
 hetero ring which may be substituted, or the following
 formula (4):



wherein R^8 and R^9 each represent a hydrogen atom, a lower
 20 alkyl group which may be substituted, or a phenyl group
 which may be substituted, or R^8 and R^9 may together form a
 cycloalkyl group which may be substituted;

Y² represents a lower alkenyl group which may be substituted, a lower alkynyl group which may be substituted, a cycloalkyl group which may be substituted, a lower cycloalkenyl group which may be substituted, a phenyl group which
 5 may be substituted, a naphthyl group which may be substituted, a heteroaryl group which may be substituted, or an aliphatic hetero ring which may be substituted;

Z represents a group represented by the following formula (5) or (6):



wherein R¹⁰ and R¹¹ may be the same or different, and each represent a hydrogen atom, a lower alkyl group which may be substituted, a cycloalkyl group which may be substituted, a lower alkoxy group, a lower alkoxycarbonyl group, a lower
 15 alkylthio group, an amino group, a lower alkylamino group, a di(lower alkyl)amino group, a halogen atom, a hydroxyl group, or a cyano group, or R¹⁰ and R¹¹ may together form a cycloalkyl group which may be substituted;

r represents 0 or an integer of 1 to 3; and

20 B represents an oxygen atom, a sulfur atom, or an -NR¹³- group wherein R¹³ represents a hydrogen atom or a lower alkyl group;

any one of α1 and β1 may be bound to a Y² side.